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EXAMINER	
BUSS, BENJAMIN J	
ART UNIT	**PAPER NUMBER**
2129	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/868,669	BERTRAND ET AL.	
	Examiner	Art Unit	
	Benjamin J. Buss	2129	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 June 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17,19 and 21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17,19 and 21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This action is responsive to application **09/868,669** filed 09/26/2001 as well as the Amendment filed 6/15/2005. Claims 1-17, 19, and 21 filed by Applicant have been entered and examined. Claims 18 and 20 have been canceled. An action on the merits of claims 1-17, 19, and 21 appears below.

Examiner requests that Applicant note that the Art Unit and Examiner for this Application have changed since the last Office Action. Please note the updated correspondence information at the bottom of this office action.

Examiner suggests that Applicant further define the following terms in the claims:

- "information indicative of a goal" – This is vague to the point of being accomplished by any abstract information such as "red" (which could indicate a desired color goal for an object) or "think" (which could be an abstract goal for the user to consider). The limitation of "information indicative of a goal" would be fulfilled by any instruction, such as "stop" (indicative of the goal of ceasing some action or process). "If x<5 then x=x+1, else x=x-2" represents software code indicating a goal of adding one to the variable x when x has a value less than five, but subtracting two if x has a value greater than or equal to five. Is the goal intended to be fulfilled by the user, the facilitator, or the presentation itself?
- "presentation" – The use of this term in the claims is ambiguous. WordNet 2.1 (©Princeton University) has the following definitions (among others) for "presentation":
    - the act of making something publicly available; presenting news or other information by broadcasting or printing it; *"he prepared his presentation carefully in advance"*
    - a show or display; the act of presenting something to sight or view; *"the presentation of new data"; "he gave the customer a demonstration"*
    - the act of presenting a proposal
    - display; a visual representation of something

Claim 1 is directed to "creating a presentation", but what does the "presentation" consist of? Does the limitation of "presenting information indicative of a goal" indicate that this information is part of the presentation, thereby making the spreadsheet format the means by which goal data is presented? Is the "presentation" simply the transmission of the "presentation model" from limitations (c) and (d)? Does the "presentation" consist of the feedback provided in limitation (e)? In addition to the meaning of "presentation" being ambiguous, it is furthermore unclear how the claim limitations are used for "creating a presentation". Examiner will use the broadest reasonable interpretation of the claims. Examiner interprets "presentation" to include any transmission of information by an entity or device.

Priority

Acknowledgment is made of applicant's claim for priority based on application 09/218,726 filed in the United States on **12/22/98**.

Oath/Declaration

Please ensure that the inventorship on file is correct for the presently claimed material. This application presents claims for subject matter not originally claimed or embraced in the statement of the invention. The amendments to the claims 1 and 10 of this application result in this application claiming all of the claimed material in copending application 09/868,695. The inventive entity of these two copending applications is not the same. If the inventive entity in the oath or declaration filed on 9/26/2001 does not consist of the inventors responsible for the presently claimed subject matter, a required supplemental oath or declaration is permitted under 37 CFR 1.48. Although 37 CFR 1.48 does not contain a diligence requirement for filing the request, once an inventorship error is discovered, timeliness requirements under 37 CFR 1.116 and 37 CFR 1.312 apply. The new oath or declaration must properly identify the application of which it is to form a part, preferably by application number and filing date in the body of the oath or declaration. See MPEP §§ 201.03, 602.01, 602.02, and 2137.01.

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Drawings

The drawings have not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is required in correcting any errors of which applicant may become aware in the drawings.

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Specification

The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is required in correcting any errors of which applicant may become aware in the specification.

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Claim Rejections - 35 USC § 103

Applicant's arguments have been fully considered but are moot in view of new grounds of rejection. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

70 > (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention
75 > was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the Office presumes that the subject matter of the various claims was commonly owned at
80 the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the Office to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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Claims 1-2, 4-11, 13-17, 19, & 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Purcell* (USPN 5,727,161) in view of *Cook* (USPN 5,727,950) and in further view of *Goleh* (USPN 5,372,507).

Regarding claim 1:

Purcell teaches,

- (a) presenting information indicative of a goal in a spreadsheet format (C1-45, especially "electronic spreadsheets are well-known and powerful planning and management tools. Spreadsheets organize and present financial or accounting information" C1 L29-40; Also see Figs. 7, 15, 19, 22-23, 34, 42-43, & 46-47)

- (b) analyzing the spreadsheet format and translating the information into a presentation model (C1-45 especially "Based on the foregoing summary ... Such information based on spreadsheet plan-model data is developed and delivered using spreadsheet software products, as well as other plan-model entry devices. More particularly, from the spreadsheet plan-model, the present invention enables the operator/user to select inputs (factors) and outputs (goals) for creating a desired graph. ... The graphic presentation of the present invention provides a concise visual delivery of spreadsheet plan-model analysis information for which users of all skill levels can benefit from assistance in both learning and ongoing application. ... using, for example, disk files." C6 L1-45; Also see "Graphic analyses are...to what-if possibilities" Abstract)

- (c) integrating information that motivates accomplishment of the goal into the presentation model (C1-45 especially "The software further...the input data" C3 L12-22)

- (d) managing information flow utilizing a table of components (C1-45 especially "Each spreadsheet page...numbers of cells" C11 L55-65)

Purcell fails to explicitly teach:

- (a) the goal being associated with a training objective of a student, the training objective corresponding to mirroring an actual work environment of the student

- (d) each component encapsulating a behavior characteristic and data to support an associated set of services through a published interface

- (e) evaluating progress toward the goal and providing feedback that further motivates accomplishment of the goal.

Goleh teaches:

- (a) the goal being associated with a training objective of a student, the training objective corresponding to mirroring an actual work environment of the student (C1-14 especially "The present invention initially … mastering the subject and engaging it professionally." C3 L24-45; Also "A method for teaching the practical application of a subject. The student is furnished … a simulated life-like situation having a stated goal." Abstract)

- (e) evaluating progress toward the goal and providing feedback that further motivates accomplishment of the goal (C1-14 especially "The present invention initially … student is guided through these tasks accompanied by the watchful eye of the tutorial that monitors and anticipates the student's progress. … Should the student supply an erroneous answer, the tutorial will alert the student to the error and request that the student supply the correct information. … mastering the subject and engaging it professionally." C3 L24-45 and "The tutorial then evaluates the progress the student has made through the tutorial as a whole. … tutorial first inquires of the student whether or not any prior transactions, including the one just-completed, should be reviewed" C9 L20-35). *The feedback of requesting the student to correct errors motivates the student to correct the errors that have been made. Also inquiring of the student whether or not any transactions should be reviewed is feedback that motivates the student to consider the correctness and completeness of the work at*

hand, thereby further motivating the student to correct any noticed mistakes and complete any omitted transactions. Since the goal is for the student to correctly complete the tasks provided, this limitation is clearly met.

Motivation

Purcell and *Goleh* are from the same field of endeavor, computer-based finance. At the time of the invention, it would have been obvious to the person of ordinary skill in the art to train managers and investors using the machine-aided tutorial method of *Goleh* such that they understand how to use the spreadsheet analysis of *Purcell* to plan and manage economic investments and operations within a simulated life-like situation having a stated goal. Motivation for doing so would have been to provide "`a life-like situation so that the student may gain hands-on experience...[and] so that the student can conveniently engage the tutorial method and so that the student's progress can be monitored by the computer...[and] to provide an interactive exercise that allows the student to independently assimilate the necessary guidelines required for performing the life-like situations presented to them`" (*Goleh* C3 L54-68). Therefore, it would have been obvious to train managers and investors, with a machine-aided tutorial method, to use spreadsheet analysis to plan and manage economic investments and operations within a simulated life-like situation having a stated goal, as taught by the combination of *Purcell* and *Goleh*, for the benefit of allowing the student to independently assimilate the guidelines required for performing within provided life-like situation so the student may gain hands-on experience while the progress of the student is monitored by a computer.

The combination of *Purcell* and *Goleh* fails to explicitly teach:

- (d) each component encapsulating a behavior characteristic and data to support an associated set of services through a published interface

Cook teaches,

- (a) presenting information indicative of a goal, the goal being associated with a training objective of a student, the training objective corresponding to mirroring an actual work

environment of the student (C5-63 especially "Therefore, an exemplary preferred ABI system includes one or more student client systems 201, at which student 202 receives instructional presentations including homework" C15 L35-45 and "The ABI system provides an environment in which … generate agent event messages." C31 L35-50 and "Student linking … including simply talking with each other by voice or text or for joint work on a particular material in which the students have either similar roles, as in developing a document using a word processor, or different roles, as in a simulation or game. Another activity of linked students includes group activities, in which position of participants within a virtual environment determines activity and role within activity. A final exemplary activity for linking student groups is moderated activity, in which participation is controlled by a special coordinating task that perhaps executes on a server system. An example of this latter activity is a spelling bee which is described in more detail subsequently." C46 L15-35 and "In an exemplary embodiment, this data subtype includes standard and criteria data, usually set by the school system, which include objectives and standards the student must meet in the particular course, milestone data establishing objectives already met by the student, data relating to the student's progress in the materials, data relating to the student's use of tools in the materials, and performance data" C49 L1-20 and "Progress data includes data … Performance data 1112 relates to student's performance over several lessons in the materials and can include mean performance, weighted moving averages of performance, patterns of performance, use of hints, use of retries, and needed remediation … to determine whether student performance is improving or declining" C49 L1-20 and "A further important

object of this invention is to … present to students a variety of interactive, adaptive, and self-paced computer-assisted instruction and homework materials in a manner which informs the agent of a student's progress and performance and which permits the agent to manage or control the materials to the student's pedagogic characteristics. Thereby, the ABI system can effectively guide and engage students in their educational tasks" C6 L55-65 and "The materials engine can adjust its sequence of presentation in response to student responses. … these patterns of interactions can be analyzed to provide more adaptive responses from the system." C11 L20-45; Also see Fig. 4); *It is clear that information indicative of a goal associated with training objectives for a student are presented, and that these objectives seek to mirror actual work environments of the student. Furthermore, the system of the invention becomes the actual work environment of the student by acting as a human tutor would to teach a student, allow interaction with other students for activities such as group work and spelling bees, and presenting the student with homework to be completed and submitted. While this is the broadest reasonable interpretation of "mirroring an actual work environment of the student", Examiner has additionally provided support above via Goleh for the interpretation of "mirroring the practical real-world environment for which the student is being trained".*

- (b) translating the information indicative of a goal into a presentation model (C5-63 especially "In an exemplary embodiment, this data subtype includes … to determine whether student performance is improving or declining" C49 L1-20 and "A further important object … interactive, adaptive, and self-paced computer-assisted instruction and homework materials in a manner which informs the agent of a student's progress and performance … their educational tasks" C6 L55-65 and "The materials engine … interactions can be analyzed to provide more adaptive responses from the system." C11 L20-45 and "In the ABI system, the agent builds an adaptive model …

interactive instruction." C12 L20-25 and "Agent software 108 in the ABI system builds an adapting pedagogic or cognitive model of its student … preferably include the information from which this model is built. … implementation of the ABI system." and C14 L55-63; Also see Figure 4);

- (c) integrating information that motivates accomplishment of the goal into the presentation model (C5-63 especially "it accepts data…appropriate candidate behaviors" C5 L39-55 and "The on-screen agent instructs, motivates, engages and guides its student" C5 L55-C6 L10 and "in the case of a communication triggered by good performance, the agent can select the display of sound and video clips, from a data snips library, that the student finds pleasing. The agent can further make reward graphics available on the student's screen for a period of time" C14 L15-30 and "The affect further characterizes the intent of the utterance. For example, an utterance of a "congratulations" type … is important so that the virtual tutor aspect of the ABI system engage the student in order to improve instructional results" C58 L15-40 and "In the ABI system, the agent builds an adaptive model of its student's pedagogic characteristics, in other words the student's cognitive styles, by monitoring the course of the student's interactive instruction." C12 L20-25 and "Agent software 108 in the ABI system builds an adapting pedagogic or cognitive model of its student … preferably include the information from which this model is built. In general, event messages must include such content as is necessary to describe and parametrize the pedagogic or cognitive style models adopted by the materials in an implementation of the ABI system." C14 L55-63); *The student pedagogic model is concerned with how a student learns. The agent uses this model to determine what learning styles motivate the student such that the agent may maximize tutoring effectiveness.*

- (d) managing information flow utilizing a table of components, each component encapsulating a behavior characteristic and data to support an associated set of services through a published interface (C5-63 especially "FIG. 2A also shows an exemplary screen layout … preferably partitioned so that principal components of this invention are displayed; … Materials area 220 is for the instructional materials, tools, and communication materials to present visual display objects and for these components to receive interactive input. … The system area at top includes toolbar 218 for selecting particular available system components. In particular, always available on this toolbar are selection icons 219 for the calendar and scheduling tool. … This software provides, among other services, support for I/O devices attached to the client, a file system with cache control, lower level network protocols, such as TCP/IP and ATM, and higher-level network protocols, such as HTTP V2.0. Basic shared ABI system capabilities are provided by executive software 223. … Such downloading can utilize higher level network transfer protocols, or alternatively, directly use lower level network protocols." C16 L50-C17 L40 and "Instructional Materials: the components of a course of instruction … to the student." C9 L55-63 and "Tools Data: the content … Virtual Tutor: the ABI system components acting together to emulate a human tutor; … personal tutor" C10 L25-35 and "§5.1.1 Functional Components … from the system" C10 L41-C11 L42 and "This optional capability serves … the operating system components to maintain some form of version control of the read-only data. … access the ABI system services from any available client system at any time by simply downloading the student data object to that client system." C16 L15-30); *The table in Figure 2A allows a user access to various components of the invention through a published user interface. These components clearly*

encapsulate behaviors and data that are essential to providing associated services as disclosed in the above references and throughout the disclosure of the invention.

- (e) Evaluating progress toward the goal (C5-63 especially "In an exemplary embodiment, this data subtype includes standard and criteria data, usually set by the school system, which include objectives and standards the student must meet in the particular course, milestone data establishing objectives already met by the student, data relating to the student's progress in the materials, data relating to the student's use of tools in the materials, and performance data" C49 L1-20) and providing feedback that further motivates accomplishment of the goal (C5-63 especially "in the case of a communication triggered by good performance, the agent can select the display of sound and video clips, from a data snips library, that the student finds pleasing. The agent can further make reward graphics available on the student's screen for a period of time. On the other hand, in the case of error the agent can point to the screen location of the error" C14 L15-30 and "in response to a previous high or increasing error rate of the student, the on-screen agent presents a meta-response 508 commenting on the pedagogic nature of the student's error. Further, it activates a persona 507 to engage the student's attention. This persona can advantageously include animation, audio, and speech output of the displayed text" C26 L35-65 and "A further important...student's pedagogic characteristics" C6 L55-65; Also see Figure 4);

Motivation

Cook and the combination of *Purcell* and *Goleh* are from the same field of endeavor, computer-based instruction. At the time of the invention, it would have been obvious to the person of ordinary skill in the art to use the agent based instruction system of components with its pedagogic model as disclosed by *Cook* to improve upon the training of managers and investors,

with a machine-aided tutorial method, to use spreadsheet analysis to plan and manage economic investments and operations within a simulated life-like situation having a stated goal as taught by the combination of *Purcell* and *Goleh*. Motivation for doing so would have been to provide "to utilize augmented computer-assisted instruction materials which present to students a variety of interactive, adaptive, and self-paced computer-assisted instruction and homework materials in a manner which informs the agent of a student's progress and performance and which permits the agent to manage or control the materials to the student's pedagogic characteristics. Thereby, the ABI system can effectively guide and engage students in their educational tasks" (*Cook* C6 L57-65) because "It is clear to those of skill in the art that by providing interactive, adaptive, and self-paced computer-assisted instruction and homework delivered over widely available computer networks this invention has immediate application in public, private, and commercial school environment of all levels. Educational research shows that instruction and homework of these characteristics improves students' educational outcomes" (*Cook* C8 L5-12) and "for interactive, adaptive, and individualized computer-assisted instruction" (*Cook* Abstract, sentence 1) and for such instruction to be "available to geographically dispersed students and from geographically dispersed schools" (*Cook* C6 L35-56). Therefore, it would have been obvious to combine *Cook* with the combination of *Purcell* and *Goleh* to get an interactive, adaptive, self-paced computer-assisted instruction and homework system delivered over widely computer networks to allow managers and investors to learn, in the individualized instruction style best suited to them, to use the spreadsheet analysis to plan and manage economic investments and operations within a simulated life-like situation having a stated goal for the benefit of individualized instruction available to geographically dispersed students from geographically dispersed training centers.

Regarding claim 2:

Cook discloses:

the step of instantiating a component from the table of components to measure progress toward the goal based on the presentation model (C5-63 especially "data subtype includes ... objectives and standards the student must meet in the particular course, milestone data establishing objectives already met by the student, data relating to the student's progress in the materials, data relating to the student's use of tools in the materials, and performance data. Progress data includes data necessary for the student to leave the materials and resume the materials at the prior point" C49 L1-17 and "Teachers and administrators ... even one student" C11 L43-50 and "In the case of shared work on one materials, communications materials can generate events recording how this student in progressing with the shared materials; in the case of a contest such as a spelling bee, events recording how this student is progressing in the contest with respect to other contestants. In addition, in a preferred embodiment agent software 108 also receives messages describing the progress of the student through specific instructional materials. For example, in the case of mathematics materials, such messages can include information that the student is making errors in problems requiring finding common denominators. These event message should preferably all information that can be of interest to teachers and administrators for tracking student progress and tracking course adequacy" C14 L1-16). *Cook clearly instantiates data types to measure the progress of the student within the materials.*

Regarding claim 2:

Goleh discloses:

the step of instantiating a component from the table of components to measure progress toward the goal based on the presentation model (C1-14 especially "The present invention initially provides the accounting student with a progression of instructional and/or informative screens that set forth the knowledge required to accomplish the real-like tasks that will be required of the student. Through a menu-based system, the student is guided through these tasks accompanied by the watchful eye of the tutorial that monitors and anticipates the student's progress. As the student progresses through the tutorial, information that is necessary to the student's successful completion of the task at hand may be presented in the appropriate context most conductive to the student's best learning of the immediate subject" C3 L24-40 and "The tutorial then evaluates the progress the student has made through the tutorial as a whole" C9 L20-25).

Regarding claim 4:

Cook discloses:

instantiating a component from the table of components to analyze progress and determine appropriate feedback based on the presentation model (C5-63 especially "objectives and standards the student must meet in the particular course, milestone data establishing objectives already met by the student, data relating to the student's progress in the materials, data relating to the student's use of tools in the materials, and performance data. Progress data includes data necessary for the student to leave the materials and resume the materials at the prior point" C49 L1-17 and "In the case of shared work on one materials, communications materials can generate events recording how this student in progressing with the shared

materials; in the case of a contest such as a spelling bee, events recording how this student is progressing in the contest with respect to other contestants. In addition, in a preferred embodiment agent software 108 also receives messages describing the progress of the student through specific instructional materials. For example, in the case of mathematics materials, such messages can include information that the student is making errors in problems requiring finding common denominators. These event message should preferably all information that can be of interest to teachers and administrators for tracking student progress and tracking course adequacy" C14 L1-16 and "These named display ... to generate displays" C60 L15-30 and "in the case of a communication triggered by good performance, the agent can select the display of sound and video clips, from a data snips library, that the student finds pleasing. The agent can further make reward graphics available on the student's screen for a period of time. On the other hand, in the case of error the agent can point to the screen location of the error" C14 L15-30 and "in response to a previous high or increasing error rate of the student, the on-screen agent presents a meta-response 508 commenting on the pedagogic nature of the student's error. Further, it activates a persona 507 to engage the student's attention. This persona can advantageously include animation, audio, and speech output of the displayed text" C26 L35-65; Also see Figure 4).

Regarding claim 4:

Goleh discloses:

instantiating a component from the table of components to analyze progress and determine appropriate feedback based on the presentation model (C1-14 especially "The present

invention initially provides the accounting student with a progression of instructional and/or informative screens that set forth the knowledge required to accomplish the real-like tasks that will be required of the student. Through a menu-based system, the student is guided through these tasks accompanied by the watchful eye of the tutorial that monitors and anticipates the student's progress. As the student progresses through the tutorial, information that is necessary to the student's successful completion of the task at hand may be presented in the appropriate context most conductive to the student's best learning of the immediate subject" C3 L24-40).

Regarding claim 5:

Cook discloses:

the step of instantiating a component from the table of components to evaluate options and present appropriate feedback to assist a student to achieve the goal based on the presentation model (C5-63 especially "the ABI system ... of task scheduling" C29 L14-30 and "These named display ... to generate displays" C60 L19-30)

Regarding claim 6:

Cook discloses:

instantiating a component from the table of components to simulate a business application based on the presentation model (C5-63 especially "An object of this invention is reporting of ... in existing computer-assisted instruction systems" C7 L42-50 and Table 3 in C52 L55-65 and "These named display ... to generate displays" C60 L19-30).

Regarding claim 6:

Goleh discloses:

instantiating a component from the table of components to simulate a business application based on the presentation model (C1-14 especially "Upon correctly preparing the post-closing trial balance, the tutorial programs has been completed by the student 314. The student has completed a life-like tutorial using tools and materials similar to that of a real-life accountant in a real-life situation. The different tasks performed by the student are available for review" C12 L59-65 and "In one embodiment of the accounting tutorial embodiment, sixty-three (63) different transactions are subject to correct student interpretation and responses. These sixty-three transactions represent the entirety of transactions for one accounting period (one month) for a fictional auto parts supply shop. Once the student has correctly entered all sixty-three transactions into the books of the auto supply shop, the tutorial recognizes at step 256 in FIG. 2c that the transactions are at an end and that the month-end accounting procedure now needs to be engaged. Other accounting tutorial embodiments can present transaction for other forms of businesses like services, manufacturing, etc" C10 L5-17).

Regarding claim 6:

Purcell discloses:

instantiating a component from the table of components to simulate a business application based on the presentation model (C1-45 especially "Compared to conventional formats of quantitative information on business-financial plan, such as ubiquitous spreadsheet tables, each of the invention's graphic analyses represents development and delivery of a vast amount of planning and decision-

making information and value in concise visual format" C33 L10-17 and "With a very wide range of business-financial users, most of which are not mathematical experts, this spreadsheet characteristic facilitates wider business-financial use" C12 L25-30; Also see Figures 1-54).

Regarding claim 7:

Purcell discloses:

instantiating a component from the table of components to interact with a quantitative analysis model to perform what-if analysis based on the presentation model (C1-45 especially "In a first integrated or subcombination process, steps 610-612 are performed. From these steps, the computer system 100 through user selection of a goal and one or more factors develops and displays graphic analyses showing goal-factor relationships and panoramas of combinations of factor variant data and goal variant data across ranges above and below values contained in the spreadsheet plan-model, representing a great number of what-if possibilities. A second integrated process or subcombination adds the step 613 to steps 610-612. Specifically, after the created graphic analysis with graph lines is displayed, interactive explorations of what-if possibilities are conducted" C13 L49-62; Also "Selected graphic analyses can be saved in a method and customized user interface that simplify later redevelopment of the graphic analyses ready for further interactive moves to what-if possibilities" Abstract, last sentence).

Regarding claim 8:

Cook discloses:

instantiating a component from the table of components to interact with a student utilizing rule-based logic based on the presentation model (C5-63 especially "The materials data includes display objects containing the substance of the instruction, logic to sequence the display according to student input, and notations" C7 L1-5 and "The second step is the selection of the sequencing logic for the ordered display of the objects to the student and the educationally appropriate reaction to student requests and responses. The sequencing logic can reference instructional controls set by agent software 108, such as a command to increase example density, and preferably is chosen in light of principles of educational psychology and practice as detailed above. The third step is the specification of interactions with a student's agent or virtual tutor, a key component of the ABI system. This specification is made by augmenting the sequencing logic with "notations," which are referenced, called, or executed by the sequencing logic during object presentation and that communicate with the agent, in a preferred embodiment by exchanging messages. In the ABI system, the agent builds an adaptive model of its student's pedagogic characteristics, in other words the student's cognitive styles, by monitoring the course of the student's interactive instruction" C12 L5-25 and "These named display … to generate displays" C60 L19-30 and "The sequencing logic causes this display in view of the variables and other information in the materials data and any student input" C42 L15-20).

Regarding claim 9:

Cook discloses:

instantiating a component from the table of components to present a time based simulation based on the presentation model and receiving a selected action, from the student, for each time period

of the time based simulation (C5-63 especially and "The following general principles … the system preferably provides task specific hints or suggestions if no user input is received in a time period adaptively determined. … current context" C28 L12-25 and "The corresponding event message can include … the expected time to complete … In response, the materials can generate several messages: a first message can include the time required to make the answer … Another educationally significant point can be a long delay in receiving the next student input, at which point the materials engine can send an asynchronous message indicating the time elapsed" C13 L45-65 and "Exemplary coaching parameters include the time pacing of exercises, the new concept seeding rate and the density of examples. In this manner, the materials can present interactive instruction according to optimal values of the pedagogic characteristics or cognitive styles of each student as determined from the agent's observation of its student" C13 L1-10 and "The scheduling/calendar tool … Selection of each of these parts brings up daily and monthly scheduling functions. These function can either prescribe the student's next activity or permit choice where the student has excess time or demonstrated personal scheduling ability" C25 L50-60 and "Displays from the ABI System … time increases downward. … at the arrow's head" C27 L50-60 and "Schedule/calendar component … the time expected for the student to complete an activity, as determined from the student's past performance also stored … schedule/calendar can permit OS task creation requested by the student … and student data object" C34 L40-65 and "Having completed all possible processing of the student input action, the system now waits at wait point 717 for the next student action or time interval" C39 L64-67 and "The spelling bee

activity can be scheduled for … or selected by the student. … No response within a specified amount of time is taken as indicating a desire not to join. … If enough eligible students join the spelling bee, the server task continues, otherwise it sends a termination message … and reports results" C47 L35-67 and "Materials specific performance includes, for example, weighted moving averages of data on the student's response time and response latency" C63 L3-8; Also see Table 3 in C52 L55-65). *The prior art referenced contains clear examples of this limitation on multiple levels of reasonable interpretation. One example is the schedule/calendar, which is the overarching time based simulation during which student actions are received during each scheduled activity period. Additionally, students who have earned the privilege of self-scheduling are permitted to choose to schedule activities themselves. Thus the action of a student "working on an activity" is received during each scheduled activity period in which a student interacts with the system. Another example is within the activities, which may be timed such that a visible timer is disclosed for keeping the student aware of the remaining time for acting on the material presented. Yet another example within the disclosure is the response latency. The system tracks the period of time between student responses. If the student delays acting on the material for longer than expected, a no-action event based on the timer may received, which results in the system prompting the student with interactions, such as hints, to motivate timely action on the part of the student. Also, during the time-based simulation of a spelling bee, an action consisting of an attempt at correctly spelling the word would be received from each participating during appropriate periods of time.*

Regarding claims 10-11, 13-16, 17, & 19:

Claims 10-11, 13-16, 17, & 19 are rejected on the same grounds as claims 1-2, 4-7, 9, & 8 respectively, as detailed above.

Regarding claim 21:

Claim 21 is rejected on the same grounds as claim 1, as detailed above.

Claim Rejections - 35 USC § 103

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Purcell* (USPN 5,727,161), *Cook* (USPN 5,727,950), and *Goleh* (USPN 5,372,507) as applied to claims 1-2, 4-11, 13-17, 19, & 21 above, and further in view of *Clancey* (USPN 4,847,784).

Regarding claim 3:

The combination of *Purcell*, *Goleh*, and *Cook* fails to explicitly teach:

> the step of instantiating a component from the table of components to interrupt and interview a student to obtain information to measure progress toward the goal and determine appropriate feedback based on the presentation model.

Clancey discloses:

> the step of instantiating a component from the table of components to interrupt and interview a student to obtain information to measure progress toward the goal and determine appropriate feedback based on the presentation model (C1-18 especially "When any of the interrupt conditions 30 occur during the test consultation, the test consultation is interrupted and the evaluation system 34 is operated to prompt the student 27 for information pertaining to the condition having caused the interrupt. … After probing the student 27 for a response, the response is compared to the knowledge in the knowledge base 22 pertaining to the interrupt condition in order to evaluate the student's knowledge and performance. As shown in FIG. 2, the result of the comparison is recorded as a record 46 of the student's knowledge and performance" C9 L60-C10 L16 and "The instruction is therefore easily tailored to the subject domain and the needs of the student by

appropriately selecting the trap expressions and the test cases. The trap expressions and the test cases are, for example, stored in a case library, and the cases could be ranked, for example, in order of increasing difficulty and student experience level" C15 L40-50).

Motivation

Clancey and the combination of *Purcell*, *Goleh*, and *Cook* are from the same field of endeavor, computer-based instruction. At the time of the invention, it would have been obvious to the person of ordinary skill in the art to add the interruption and interviewing taught by *Clancey* to evaluate the progress of the student and provide appropriate feedback in the interactive, adaptive, self-paced computer-assisted instruction and homework system delivered over widely computer networks to allow managers and investors to learn, in the individualized instruction style best suited to them, to use the spreadsheet analysis to plan and manage economic investments and operations within a simulated life-like situation having a stated goal as taught by the combination of *Purcell*, *Goleh*, and *Cook*. Motivation for doing so would have been "to provide a practical domain-independent tutor shell accepting the knowledge base of a consultation system and providing instruction tailored to the subject domain and the needs of the student … which easily accepts domain-dependent tutoring knowledge from a user … [and] to provide a knowledge based tutor capable of extending its own knowledge base" (*Clancey* C6 L1-30) in "a practical domain-independent tutor shell accepting the knowledge base of a consultation system and providing instruction tailored to the subject domain and the needs of the student. For easily accepting domain-dependent tutoring knowledge from a user, the domain knowledge base is analyzed for possible interrupt conditions or traps which may occur during a test consultation … Moreover, the computer execution time during a consultation interrupt is substantially decreased by compiling and

indexing portions of the domain knowledge base which relate to the interrupt conditions" (*Clancey* C15 L30-60). Therefore, it would have been obvious to combine *Clancey* with the combination of *Purcell*, *Goleh*, and *Cook* to get an interactive, adaptive, self-paced computer-assisted instruction and homework system, capable of interrupting and interviewing the learner to evaluate progress and provide appropriate feedback, delivered over widely computer networks allowing managers and investors to learn, in the individualized instruction style best suited to them, to use the spreadsheet analysis to plan and manage economic investments and operations within a simulated life-like situation having a stated goal for the benefit of providing instruction tailored to the subject domain and the needs of the student while decreasing the computer execution time during a consultation interrupt by compiling and indexing portions of the domain knowledge base which relate to the interrupt conditions.

Regarding claim 12:

Claim 12 is rejected on the same grounds as claim 3, as detailed above.

RESPONSE TO APPLICANTS' AMENDMENT REMARKS

Examiner acknowledges the current status of the claims as filed by Applicant:

Cancelled: claims 18 and 20.

Amended: claims 1, 9-10, & 17.

Previously presented: 2-8, 11-16, & 19.

New: claim 21.

The claims filed on 6/15/2005 have been entered and examined.

Applicant's arguments with respect to the rejections of claims 1-17, & 19 under 35 U.S.C. §103 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Correspondence Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin J. Buss whose telephone number is 571-272-5831. The examiner can normally be reached on M-F 9AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Vincent can be reached on 571-272-3080. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Benjamin J Buss
Examiner

2/17/06
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